

**Notice of Allowability**

Application No.

10/810,213

Applicant(s)

SAKAI ET AL.

Examiner

Matthew C. Sams

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/26/2007.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

***Allowable Subject Matter***

1. Claims 1-5 are allowed.

***Examiner's Statement of Reasons for Allowance***

2. The following is a statement of reasons for the indication of allowable subject matter:

Applicant's invention is drawn to a folding mechanism comprising:

- A fixed member having a plurality of fixed cams disposed on a side face of the fixed member
- A movable member arranged for rotation with respect to the fixed member having a plurality of movable cams disposed on a side face of the movable member in confronting relation with the fixed cams, the movable cam being formed of a protruded portion and sloped portions extended to the left and right
- A spring for urging the movable member or the fixed member such that the movable cams and the fixed cams are brought into resilient contact with each other
- A first set of the movable and fixed cams forming an inner camming unit
- A second set of the movable and fixed cams form an outer camming unit positioned circumferentially around the inner camming unit
- The movable member and the plurality of movable cams are formed solidly

- When the movable cam opens over 180° from a closed position, the fixed cam is held in resilient contact with the sloped portion of the movable cam so that a further force is applied to open the movable cam
- Each of the plurality of movable cams rotates from a partially open position to a predetermined angle more than 180° from the partially open position without the maximum height of the fixed cams reaching a maximum height of the respective movable cams

3. Applicant's independent claims 1 and 3 each recite, *inter alia*, a folding mechanism comprising a fixed member with a plurality of cams and a rotationally movable member having a plurality of movable cams held in frictional contact with the fixed member by a spring, wherein the first set of movable and fixed cams are at an inner position compared to the second set of movable and fixed cams that are positioned in an outer circumferential position, wherein the movable member and plurality of cams are formed as one piece, when the movable cam opens over 180° from a closed position, the fixed cam is held in contact by a sloped portion of the movable cam and each of the plurality of movable cams are required to reach the maximum height of the fixed cams just after opening from a closed position and won't reach the maximum height again until opened more than 180°. Applicant's independent claims disclose a particular combination that is neither suggested nor taught in the prior art.

4. The closed cited art of record, JP 11-50735 and Nikko Ind. Corp. (2000-192939) both differ from the claimed invention by not teaching each of the plurality of movable

cams rotates from a partially open position to a predetermined angle more than 180° from the partially open position without the maximum height of the fixed cams reaching a maximum height of the respective movable cams.

5. Accordingly, Applicant's claims are allowed for these reasons and for the reasons recited by the Applicant in the Amendments filed on 11/16/2006, 6/8/2007, 10/26/2007 and the telephone interview on 8/20/2007.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCS  
12/8/2007

  
LESTER G. KINCAID  
SUPERVISORY PRIMARY EXAMINER